

LOMB, Frigyes

Technical language improvement. Elektrotechnika 53 no.11:
520 '60.

LOMB, Frigyes

An account of the June 24, 1960 conference on "Domestic electrical appliances" arranged by the Hungarian Electrotechnical Association and the Institute for Developing Heavy Current Appliances. Villamosag 10 no.1:21-28 '62.

1. "Villamosag" szerkeszto bizottsagi tagja.

(Hungary—Electric apparatus and appliances)
(Hungary—Electrical engineering)

LCMB, Frigves

Air-tight low-powered refrigerator rotors. Villamonsag 9 no.4:
37-38 Apr '61.

LOMB, Frigyes

The probable development of power demands and new methods of power generation. Term tud kozl 6 no.2:63-65 F '62.

1. Az Erosaramu Gyartmanyfejlesztési Intezet osztalyvezetoje,
(Budapest)

LOMB, Frigyes

International Conference on Electrical Heat Technology held
in Budapest. Villamosag 10 no.2:53-61 F '62.

LOMB, Frigyes

Is it necessary to Magyarize our language style in any case?
Elektrotechnika 54 no.4:158 Ap '61.

SIK, Bela; LOMB, Frigyes

Remarks. Elektrotechnika 52 no.1/2:39-41 '59.

1. Orszagos Villamosenergia Felugyelet.

LOMB, Frigyes

Some problems and plans concerning the development of electric power use in Austria. Elektrotechnika 52 no.1/2:70-71 '59.

LOMB, Frigyes

New trends inn the construction of direct current motors.
Elektrotechnika 52 no.1/2:71-72 '59.

LOMB, Frigyes

"Induction machines" by W. Schuisky. Reviewed by Frigyes Lomb.
Elektrotechnika 52 no.8/9:410 '59.

LOMB, Frigyes.

Contact protection in household electric appliances. Villamosság
10 no.8:233-237 Ag '62.

1. "Villamosság" szerkeszto bizottsagi tagja.

LOMB, Frigyes

Constructive solutions at the introduction of cold-rolled sheets. Elektrotechnika 52 no.7:331-332 '59.

LOMB, Frigyes

High-voltage circuit breakers for switching capacitor banks.
Elektrotechnika 52 no.8/9:398-399 '59.

LOMB, Frigyes

Standards in the heavy-current industry. Elektrotechnika
55 no.2/3:120-122 F/Mr '62.

LOMB, Frigyes

International conference on heat power engineering in Budapest.
Elektrotechnika 55 no.2/3:118 F/Mr '62.

BOGNAR, Imre; LOMB, Frigyes

Appearance of professional standards. Szabvany kozl 14 no.8:
177-180 Ag '62.

1. Kozlekedes- es Postaugyi Miniszterium I.Vasuti Foosztaly, I/1
Tervgazdasagi es Muszaki Fejlesztési szakosztaly vezetője (for
Bognar). 2. Koho- es Gepipari Miniszterium Erőszamu Berendezési
Igazgatóság 2.sz. Szabványosítási Központ vezetője (for Lomb).

LOMB, Frigyes

Low-power electric motors in household appliances. Villamosag
8 no.1:20-21 Ja '60.

LOMB, Frigyes

"Measuring electric currents on power transmission lines" by P. Popolansky. Reviewed by Frigyes Lomb. Villamossag" 8 no.8/9: 280 Ag-S '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOB, Frigyes

An account of the function of the No.2 heavy-current standard base.
Villamossag 8 no.11:341-342 N '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

"Manufacture of electric fans in India." Reviewed by Frigyes
Lomb. Villamossag 8 no.11:347 N '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

Small electrical appliances independent of a network and dry battery. Villamosság 8 no.4:122-123 Ap '60.

1. "Villamosság" szerkeszto bizottsagi tagja.

KOVACS, Zoltan, dr.; LOMB, Frigyes

Electric accidents in Hungary in 1958-1961. Elektrotechnika 55
no.12:571-573 D '62.

1. Kozponti Napi Ellenorzo Bizottsag (for Kovacs). 2. Erosarumu
Gyartmanyfejlesztési Intezet (for Lomb).

LOMB, Frigyes

Electric household appliances and their power consumption. Term ted
kozl 5 no.9:393-396 S '61.

LOMB, Frigyes

Some experiences with standardization bases. Szabvany kozl 13 no.2:
34-35 F '61.

LOMB, Frigyes

Frigyes Lomb's answer to Pal Boros' remark. Villamosság 10
no.12:371-372 D '62.

1. "Villamosság" szerkeszto bizottsagi tagja.

LOMB, Ffigya

The structure of rotating electrical machines from the economical point of view. Elektrotechnika 55 no.11:505-508 N '62.

1. Erosaramu Gyartmanyfejlesztési Intezet.

LOMB, Frigyes

Technical news. Elektrotechnika 52 no.1/2:75-77 '59.
Standardization. 77-78

LOMB, Frigyes

"Running quality investigations on electric motors pertaining to the 0,63-5 kW output series" by E. Pfitzner. Reviewed by Frigyes Lomb. Elektrotechnika 56 no.1/2:74-77 & '63.

LOMB, Frigyes

"Exciting three-phase generators by rectifier" by R. Haenisch.
Reviewed by Frigyes Lomb. Elektrotechnika 56 no.7/8:341 '63.

LOMB, Frigyes

"Slotless rotor for high-capacity servomotor" by T. Fukuda.
Reviewed by Frigyes Lomb. Elektrotechnika 56 no.5:234-235
My '63.

LOMB, Frigyes, okleveles gépészmérnök

Organizational, technical and economic development of the
Hungarian heavy-current industry. Elektrotechnika 56 no.9:
361-363 S '63.

1. Erosaramu Gyártmányfejlesztési Intézet, Budapest, XIII.,
Vaci ut 48/a-b.

LOMB, Frikyes

Selection and start of high-power electric motors. Villamossag
11 no.1:22-23 Ja '63.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

Remarks about Aba Kadar's article entitled "Shock protection of household appliances." Villamossag 11 no. 4:87-88 Mr '63.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

Power resources of the world. Villamossag 11 no.3:85-86 Mr '63.

LOMB, Frigyes

On the French NFC 14-100 standard of electric installations.
Villamossag 11 no.5:150 My '63.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

"Villamosgep- es Kabelgyar Kozlemenyei", no.2, 1962; a
periodical review by Frigyes Lomb. Elektrotechnika 56 no.4:
184 Ap '63.

LOMB, Frigyes

Reply by the author to the remark of Pal Boros. Villamosag 11
no.8:246 Ag '63.

1. "Villamosag" szerkeszto bizottsagi tagja.

LOMB, Frigyes

"Tariff of electric power consumption in Vienna, Austria."
Reviewed by Frigyes Lomb. Villamossag 11 no.8:250 Ag '63.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes, okleveles elektromernok

Experiences of a study trip to the United States. Villamosság
12 no.1.:14-18 Ja'64.

1. Erosaramu Gyartmanyfejlesztési Intezet Szabvány és Dokumentációs Osztályának vezetője; "Villamosság" szerkesztő bizottsági tagja.

LOMB, Frigyes

"Fatal accidents caused by high voltage in Lower Saxony and Bremen from 1949 to 1962" by F. Gerlach. Reviewed by Frigyes Lomb. Villamossag 12 no. 2:59-60 F '64.

1. "Villamossag" szerkeszto bizottsagi tagja.

LOMB, Frigyes, okleveles elektromernok

Development trends in building low-power engines. Villamossag 12
no.5:133-141 My '64.

"Optimal use of engineering talent." Reviewed by Frigyes Lomb.
Ibid.:156

1. Department chief, Heavy Current Product Development Institute;
Editorial board member, "Villamossag."

LOMB, Frigyes

Contact protection in bathrooms. Villamosag 12 no.6:183-184 Je
'64.

1. Editorial board member, "Villamosag."

LOMB, Frigyes, okleveles villamosmérnök

Role of the Renard numbers in standardization. Szabvány kozl 16
11:188-193 N '64.

LOMB, Frigyes

"50 years of the Electric Machine and Cable Factory and its role in the development of the Hungarian electrical engineering." Reviewed by Frigyes Lomb. Electrotechnika 57 no.2/3:122 F-Mr '64.

LOMB, Frigyes

International recommendations for low-voltage appliances
and the Hungarian standard. Elektrotechnika 57 no.9:428-
430 S '64.

SA 8640

Progressive-measuring instruments. LOMAS, P. *Elektrotechnika*, 48, 124-8 (June, 1948) in Russian. The instruments have a two-co-ordinate scale system from which the relation between a measured and a non-measured quantity can be directly read off. A two-pointer instrument is described in which one of the quantities to be measured varies independently of the operator, and the other remains under his control. Numerous sketches and illustrative diagrams are given.

ASS-35A METALLURGICAL LITERATURE CLASSIFICATION

18. New trends in the Hungarian electric machine manufacturing industry by J. and P. Lohs (Electrical Engineering - Vol. 42, No. 7, pp. 242-245, July, 1969)

The industrial development of the country, especially in the manufacturing step-up of the production of electric motors. The Five Year Plan places ever increasing tasks on our rapidly developing electric machine factories. New fields require new type electric motors. In this connection the authors point to several fields where the organization of electric machine manufacturing is needed. They apply, for instance, to the manufacture of synchronous motors for cooling plants scheduled to be built during the Five Year Plan and for phase improving purposes, three phase auxiliary circuit (Schrage) motors, electrical tools indispensable in industry (hand drills, hand hammers etc.), single phase small motors of the condenser and built-in centrifugal switch type, and to a large scale electrification of the country and a planned water power economy. Therefore, establishing the *Planning and Designing Office for Electric Motors* was justified. The tasks set for this office be solely in the study of and in finding the solution to these and similar problems.

ATB-31A DETALLURKAL

LOW, S.

Use of standard numbers in establishing the dimensions of a series of engines and electric motors. p. 104.

Vol 5, no. 7/8, July/Aug. , 1953. SZABVANYISITAS. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

LOMB, P.,

"The newest Hungarian standards for electrical crane equipment" p. 54
(ELEKTROTECHNIKA, Vol. 46. No. 2, Feb. 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 7, July 1953, Uncl.

GOE, P.

"Landscape" p. 98, (Landscape, Vol. 1, no. 3, March 1973, Budapest, Hungary)

GO: Monthly List of New European Acquisitions, L.O., Vol. 2, No. 11, Nov. 1973, encl.

1988, 2.

"Annihilation" r. 1988, (MIR Press, M.L., Vol. 16, no. 6, June 1988, Budapest, Hungary)

SC: Monthly List of East European Accessions, L.S., Vol. 2, No. 11, Nov. 1988, Incl.

ICIB, P.

"Prevention of Accidents Caused by Electricity", p. 90, (VILLAG, Vol. 2, No. 3, March 1954, Budapest, Hungary)

SC: Monthly List of East European Accessions (EEL), LC, Vol. 4, No. 3, March 1955, Uncl.

LUMB P.

HUNG.

2

31. As-syn-ing of the reactive power consumption of asynchronous motors -- P. Lumb, (Villamosag -- Vol. 2, 1954, No. 6, pp. 479-483, 7 figs., 2 tabs.)

In order to obtain the correct evaluation of the reactive power consumption, which so severely charges the power stations, a new term "weighted total power or consumption" has been introduced by the author. This term indicates the algebraic sum of the power measured by a wattmeter and of the weighted quantity of reactive power added to it. $P_{weighted} = P_{active} + c \cdot Q$ where c is the coefficient of weighting (its value being between 0.1 and 0.4). The new term makes practicable such comparative calculations which were not possible hitherto, e.g. comparing the economy of a synchronous with an asynchronous motor, or comparing two asynchronous motors of different efficiencies and of different power factors. For a better indication of the losses, the efficiency is not taken into consideration but the (weighted) losses are referred to the output $\left[\lambda = \frac{P_{weighted}}{P_{output}} \right]$. It is suggested that the weighted total power consumption be taken as a basis for a tariff making allowance for the reactive power consumption as well. Finally, a meter for the weighted total power consumption is described.

12-84

LOMB, I.

"Automatic, load-dependent, star-delta switchgear." Elektrotechnika, Budapest, Vol. 47, No. 3, Mar. 1954, p. 75.

SO:Eastern European Accessions List, Vol. 3. No. 11, Nov. 1954, L.C.

LOMB, P.

"Future tasks in standardizing electric rotative machines." Elektrotechnika, Budapest, Vol. 47, No. 3, Mar. 1954, p. 87.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

LCMB, P.

"Study on the economic effect of the standard series rating of electric motors." p. 97

SZABVANYUGYI KOZLEMENYEK. (Magyar Szabványügyi Hivatal) Budapest, Hungary
Vol. 7, No. 5/6, May/June 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

LOMB, P.

"Powers of preferred numbers." p. 105

SZABVANYUGYI KOZLEMENYEK. (Magyar Szabvanyugyi Hivatal) Budapest, Hungary
Vol. 7, No. 5/6, May/June 1955.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

LOMB, P.

Problems of standardizing the heat resistance of insulating materials. p. 108

(Electrotechnika, Budapest, Vol. 48, no. 3, Mar. 1955)

SO: Monthly list of East European Accessions (EeAL), LC Vol 4, no. 6, June 1955 Uncl

LCF, F.

Electric apparatus innately safe from explosion, p. 235, ELEKTROTECHNIKA,
(Magyar Elektrotechnikai Egyesulet) Budapest, Vol. 48, No. 6, June 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

LOMB, P.

LOMB, P. Protection against shock by grounding. p. 214.

Vol. 4, No. 7, July 1956.

VILLAMOSSAG

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

ICED, I.

Electromagnetic and induction pump for nuclear reactor. p. 12
Mechanization of production in series of building parts and houses
in the Soviet Union. p. 14.
Discussions at the committee session of the Federation of Technological
and Scientific Associations. p. 18. KUSZAKI ELET. Budapest Vol. 11.
No. 5, Mar. 1956

SOURCE: East European Accessions List (EEAL) Library of Congress.
Vol. 5, No. 6, June 1956

Cultivation of onion. Vegetables.
 Suburbite.
 Agr. Bulb.: Agr. Bulb. of Hungary, No. 5, 1957, No. 20037
 Author: Lombai, Janos
 Title: Problems in Raising Onions.

Agr. Bulb.: Agrartudomány, 1957, 9, No.1-2, 45-50

To produce high onion yield it is suggested
 that the planting material be subjected to
 thermal treatment. For this purpose the
 onions are kept throughout the winter at
 18-22° with ventilation. Such treatment
 boosts the onion output by 50-60% at the
 expense of increasing the size of the onion
 bulbs (113 g, control 75 g) and a low per-
 centage of onion blossoming (1.4, control 6.9).
 The best plant arrangement was 30 x 15 cm.
 The

1/2

SZENEELY, Janos; LOMBAY, Janos

Disturbing effect of humus in simazine determination from soils according to Delley. Agrochem talajtan 12 no.1:123-128 Mr '63.

1. Országos Mezőgazdasági Minőségvizsgáló Intézet, Budapest.

POMERANTSEV, V.V.; LOMBAKH, V.A.; RUNDYGIN, Yu.A.

Determination of kinetic constants in the low-temperature
oxidation of electrode carbon. Inzh.-fiz.zhur. 5 no.3:5-9 Mr '62.
(MIRA 15:3)

1. Politekhnikheskiy institut imeni Kalinina, Leningrad.
(Oxidation)(Carbon)

PHASE I BOOK EXPLOITATION

SOV/4524

Chelovek v usloviyakh vysotnogo i kosmicheskogo poleta; sbornik perevodov iz inostrannoy periodicheskoy literatury (Man Under Conditions of High-Altitude and Cosmic Flight; Collection of Translations From Foreign Periodical Literature) Moscow, Izd-vo inostr. lit-ry, 1960. 462 p. No. of copies printed not given.

Translator (from German and English): I. I. Gurevich; Ed. (Title page): V. I. Ivanov, Doctor of Medical Sciences; Ed.: F. F. Kruglikov; Tech. Ed.: N. A. Iovleva.

PURPOSE: This book is intended for medical personnel working on problems of aviation and space medicine and for engineer-designers, scientific, and other workers in aviation and cosmonautics.

COVERAGE: The collection consists of 26 translations of periodical articles (20 American and 6 German) on problems of aviation and space medicine originally published in 1956 and 1958. Individual articles discuss problems of living conditions in cabins of flying vehicles, physiological stresses due to heat, acceleration, and noise, toxic hazards, decompression and cosmic irradiation.

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Man Under Conditions (Cont.)

SOV/4524

No personalities are mentioned. References accompany each article.

Ivanov, V. I., Foreword

5

PART I. PROBLEMS OF AVIATION MEDICINE

Lombard, Ch. P. Atmosphere in the Cabin (Die Atmosphäre in der Kabine, "Möglichkeiten und Grenzen des bemannten Fluges", 1956, pp. 11-14)

19

Blockley, W. V. Combined Physiological Stresses (Kombinierte physiologische Beanspruchungen, "Möglichkeiten und Grenzen des bemannten Fluges", 1956, pp. 110-115)

24

Büttner, K.J.K., Heat Loads in Contemporary Aircraft (Thermische Beanspruchungen im modernen Flugzeug, "Möglichkeiten und Grenzen des bemannten Fluges", 1956, pp. 15-24)

31

Roth, H. P. Impact Load Action and Dynamic Reaction of the Organism (Stosswirkung und dynamische Reaktion des Körpers, "Möglichkeiten und Grenzen des bemannten Fluges", 1956, pp. 85-95)

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Card 2/6

DUDNIK, D.M., inzh.; LAVROVSKIY, Yu.A., inzh.; LOMBARDICH, N.N., inzh.

Reducing the flammability of "Stiropor." Trudy OTIPiKhP 12:129-138
'62. (MIRA 17:1)

1. Nauchno-issledovatel'skaya laboratoriya po kholodil'noy tekhnike
Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy pro-
myshlennosti.

LUTHER, G.

Practical application of Cabelka's VUS-2S test for determination of the possibilities of welding structural steels. p.161. GEP. Budapest. Vol. 3, no. 5, May 1956.

SOURCE: East European Accessions List (EEAL), Library of Congress Vol. 3, No. 12, December 1956

LOMBARDINI, J.

"Experimental Methods for Determining Weldability of Steels." p. 55
(SVARACSKY SBORNIK. Vol 2, No. 1/2, 1953; Bratislava, Czech.)

So: Monthly List of East European Accessions, (EAL), LC, Vol. 4,
No. 4, April 1955, Uncl..

LINE UNIT, J.

Welding Boy-Extra steel. p. 15.
(Zvaranie, Vol, 3, no. 1, Feb. 1954, Praha.)

SO: Monthly List of East European Accession, (EEML), LC, Vol. 4,
No. 11, Nov. 1955, Uncl.

New methods in welding plated materials. p. 339. *Tr. VNIIM. (Ministerstvo
kacha promyshlennosti i Ministerstvo stroitelstva) Tbilisi.*
Vol. 3, no. 11, Nov. 1954.

SOURCE: East European Accessions List, Vol. 5, no. 2, September 1956

Contribution to the solution of the problem of weldability of structural steel. p. 327. *Strojnický časopis*. (Slovenská akademická vieda), Bratislava. Vol. 4, no. 3, 1955.

1956: East European Academic List, Vol. 5, no. 2, September 1956

Testing reliability of mild steels by the VU 25 method. . . 112.
Sovetskoe. (Ministerstvo kuznetskogo promyshlennosti i Ministerstvo
stroitelstva) Moskva. Vol. 4, no. 6, June 1955.

REF: East European Newsletter, Vol. 5, no. 2, September 1956

ROHMARD, J.; 1954, C.

Repairs made on a coke furnace by welding. p. 254.

Vol. 4, no. 3, August 1955
EVANSIAE
Bratislava, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 3, August 1956

LEPZA DINE, J.

Influence of mechanical and flame cutting on the weldability of nonalloy structural steel. p. 129.

Vol. 5, no. 1, 1956

ZVARNICHSKY SLOVNIK

Bratislava, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 3, August 1956

LOMPARDINI, J.; ZEKE, J.

Properties of welds made by the method of welding into molten slag. p. 50.

ZVARACSKY SBORNIK. (Slovenska akademie vied) Bratislava, Czechoslovakia. Vol. 8, no. 1, 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no. 10, Oct. 1959. Uncl.

LOMBARDINI, J.

Application of experiences in heat kinetics during electric-slag welding of heavy sheets. p. 167.

ZVARANIE. (Ministerstvo hutneho prumyslu a rudnych bani a Ministerstvo strojarenstva)
Bratislava, Czechoslovakia. Vol. 8, no. 6, June 1959.

Monthly list of East European Accessions (EEAI) Vol. 9, no. 1, Jan. 1960.

Uncl.

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1496 1416

SLOV/006/60/000/001/001/002
D216/D306

AUTHOR: Lombardini, Július, Engineer, Candidate of Technical Sciences

TITLE: Influence of boron on the structural stability of weldable refractory steels of the 16/13 CrNi type

PERIODICAL: Zvaračský sborník, no. 1, 1960, 51-70

TEXT: The quality of the 16/13 CrNi refractory steel types is considerably improved by addition of tungsten. However, to attain optimum properties, i.e. high creep limit with satisfactory plastic properties and good weldability, this steel has to be structurally stabilized. The stabilizing effect of boron was investigated by the Výzkumný ústav zvaračský (Welding Research Institute) in Bratislava. Thermal microscopy, as described by Lozinskiy (Ref.2: Vysokotemperaturnaya metalografiya (High-Temperature Metallography), Mashgiz 1956) was used in this investigation. A thermal microscope was built at the Institute,

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Influence of boron on the structural... D216/D306

consisting of the following parts: (a) Meopta B 23 S table microscope with a 200x magnifying power; (b) Meopta S 7904 vertical illuminator; (c) a vacuum oven produced by Leitz in Wetzlar, West Germany; (d) a regulating transformer; (e) a temperature indicator; (f) a Chirana oil diffusion pump, 10 liters; (g) a rotary oil vacuum pump, 30 liters. The vacuum system was capable of producing a vacuum of 10^{-3} Tor. A Chirana discharge tube was used for vacuum indication. At first, the notch toughness of two heats of 16/13 CrNi steel alloyed with W was investigated (a) in an untreated state after quenching in water from 1100°C and (b) after annealing and cooling to 830°C in 48 - 600 hours to eliminate intermetallic phases. The chemical composition of the heats was as follows:

Heat	C	Mn	Si	S	P	Cr	Ni	W	Ti
no									
1588	0.045	1.10	0.87	0.008	traces	16.2	13.2	2.30	0.51
1637	0.055	0.70	0.10	0.015	0.018	16.0	12.9	3.89	0.11

Part of the heat no. 1637 was vacuum cast. The results of notch-toughness tests of heat-treated specimens are shown in Table 2

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Influence of boron on the...

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Table 2: Results of notch-toughness tests of heat-treated samples.

Legend: (1) Heat 1588; (2) Annealing time, hours (3) Average R; (4) Heat 1637 , normally cast; (5) Heat 1637, vacuum cast.

Tabulka 2		
(1) Tavba 1588		
(2) Cas zihania hod	R mkg/cm ²	(3) $\bar{\sigma}$ R
—	27,8	26,9
—	25,0	
48	>40,0	>40,0
48	>40,0	
300	>40,0	>40,0
300	>40,0	
600	>40,0	>40,0
600	>40,0	
(4) Tavba 1637 odlievana normálne		
(2) Cas zihania hod	R mkg/cm ²	(3) $\bar{\sigma}$ R
—	21,7	21,7
—	21,7	
48	33,4	35,5
48	37,7	
300	27,0	28,3
300	29,7	
600	31,8	30,5
600	29,2	
(5) Tavba 1637 vakuovaná		
(2) Cas zihania hod	R mkg/cm ²	(3) $\bar{\sigma}$ R
—	22,6	22,7
—	22,9	
48	39,7	38,7
48	37,7	
300	31,1	31,1
300	31,1	
600	28,8	28,4
600	26,6	

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Influence of boron on the...

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permitting the following conclusions: (1) Heat treatment did not provoke brittleness; (2) the absolute notch-toughness value is in all cases sufficiently high with variations without any detectable regularity; (3) the heat with a higher W content has a relatively lower R value; (4) vacuum casting has apparently no influence on notch-toughness. In both heats an unidentified phase was found differing from carbides by its low hardness, which does not exceed 700 H_{VM} and may be as low as under 300 H_{VM} depending on heat-treatment conditions, and from the sigma-phase by its high notch-toughness. [Abstractor's note: In the abstract it is called the W-phase.] Subsequently, the influence of B on the structure of 16/13 CrNiW steel was studied. Cylindrical samples were prepared from cast material obtained from three heats of the following chemical compositions:

Heat no.	C	Si	Mn	Ni	Cr	W	V	Ti
150	0.075	1.22	1.43	14.25	16.73	3.14	0.81	0.24
49	0.06	0.50	0.94	13.08	16.0	1.95	0.80	0.48
50	0.07	0.48	0.94	12.85	15.93	2.0	1.27	0.42

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Influence of boron on the...

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One half of each heat was cast without, the other with the addition of B. The B content in each heat was established analytically as follows: Heat 150, 0.0068; heat 49, 0.0019; heat 50, 0.0043. In the following, samples with and without addition of B are designated as B and O respectively. The individual structures were photographed both while still in the oven and, for comparison, also after routine polishing in VUS 16 electrolyte and electrolytic etching in 10% solution of CrO_3 at 6 v and with exposure times ranging from 15 to 20 sec. For greater magnification the samples were cooled and photographed with a larger lens with a magnifying power of 500x. Thermally untreated samples of both types (O and B) contained in addition to the austenitic matrix also the W-phase which is dark-colored, apparently of intermetallic nature, lamellar structure and of the lowest melting point within the system. When rolled, the W-phase crumbles and its fragments orient themselves in the rolling direction. The O-samples contained ferrite, while no ferrite was found in the B-samples. It may, therefore, be stated that the W-phase depends on the W content and that the presence

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of B promotes its formation. The stability of the individual structural components was tested by solution treatment to 1080° C/4 hours with subsequent quenching in water. The B-samples did not show any changes, while in the O-samples the W-phase dissolved completely to ferrite. The annealing time of the B-samples was then extended to 24 hours and it was found that the W-phase showed a tendency to coagulation, but otherwise its original nature did not change. At an annealing temperature of 1180° C/4 hours, the W-phase of the B-samples coagulated completely. Formation of small carbide particles was observed in the vicinity of the W-phase during this diffusion process. The microhardnesses of the individual phases after this heat treatment are shown in Table 6.

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Tabulka 6

① Zlhané	② Vzorky	③ Liaty stav	④ Valcovany stav
1080 °C/4 hod ⑤	O	γ 300—340 α 395—405	γ 340—345 α 375—385
	B	⑥ W-fáza γ 270—280 215—225	⑥ W-fáza γ 345—355 290
1080 °C/24 hod ⑤	B	⑥ W-fáza γ 340—350 165—520	—
1180 °C/4 hod ⑤	B	⑥ W-fáza γ 280—290 730—790	⑥ W-fáza γ 310—320 690—790

Table 6: Microhardnesses of individual phases. Legend: (1) Annealing conditions; (2) Sample; (3) Cast state; (4) Rolled state; (5) °C/hour; (6) W-phase.

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It is seen that the presence of B strongly stabilizes the existing W-phase, the hardness of which increases with proceeding coagulation. In tests made without a protective atmosphere it was found that the B-samples had a scaling resistance lower by an order of magnitude than the O-samples. The scaling resistance was ascertained by measuring the decrease in thickness of samples. While in the O-samples this decrease on one side was only 0.08 mm after annealing at 1080° C/4 hours, in the B-samples it was 0.75 mm. Subsequently, the dissolving process of the W-phase was studied by heating thermally untreated O-samples to 750° C. It was found that the W-phase dissolved almost completely within 15 minutes. At first, it underwent a gradual coagulation and only this finely dispersed phase dissolved. Similar results were obtained also in tests with samples from heats 49 and 50 despite their different chemical composition. The author concludes that the addition of W to 16/13 CrNi steel provokes the formation of the intermetallic W-phase which dissolves to ferrite at temperatures above 700° C. The favorable influence of W on the creep properties is found up to a maximum W content of 3%. With higher contents the quantity of the

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W-phase attains too large proportions resulting in impairment of the shaping properties. In addition, a larger W-phase quantity requires a proportionally higher amount of stabilizing elements which exert an unfavorable influence on the steel properties. The W-phase is of lamellar structure, soft and brittle and crumbles when rolled. Its hardness varies between 300-700 H_{VM} , depending on the conditions of the dissolving process. When stabilized in a finely dispersed state, the W-phase substantially increases the creep resistance of the steel. If not stabilized, it dissolves at elevated temperatures into ferrite which, in turn, is the nucleus of the sigma-phase formation. Boron was found to be an efficient stabilizer of the W-phase. However, its quantity must be kept within strictly defined limits since excessive boron content substantially reduces the scaling resistance. The results of the study have shown that in order to satisfactorily increase the creep limit of 16/13 NiCr steel, the quantity of W should be kept slightly under 3%, the optimum quantity of B to stabilize the corresponding W-phase being about 0.004%. Properly alloyed, processed and heat-treated, 16/13 CrNi steel with adequate additions of W and B is

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structurally stable and has excellent plastic properties in rolling. Its notch toughness exceeds 26 mkg/cm², frequently reaching as much as 40 mkg/cm², even after long-term operation at elevated temperatures. Also, its creep resistance is higher than of normal 16/13 CrNi steel without these additions. However, the long-term tests in this respect have not been concluded as yet and, therefore, no final conclusion can be made at present. There are 34 figures, 6 tables and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: VÚZ, Bratislava

Card 10/10

MICLOSI, V., inz.; BOARNA, C., inz.; LOMBARDINI, inz. [translator]

Contribution to the metallurgy of flash welding of railway tracks with higher carbon content. Zvar s'bor 11 no.1:45-54 '62.

1. Akademia vied Rumunskej ludovej republiky, Ustredie technickeho vyskumu Timisoara (for Miclosi, Boarna). 2. Vyskumny ustav Fvaracsky, Bratislava (for Lombardini).

SALAGEAN, Traian, inz.; HRELESCU, Mircea, inz.; STOIANOVICI, Petre, inz.;
LOMBARDINI, Julius, inz., C.Sc. [translator]

Alloying mild steel with Cr and Mn in an electric arc.
Zvaranie 11 no.5:139-141 My '62.

LOMBARDINI, Julius, inz., ~~Obs.~~

On the standard in preparation: "Testing Steel Material Weldability."
Zvaranie 12 no.7:181-184, J1 '63.

1. Vyskumny ustav zvaracsky, Bratislava.

LOMBARDINI, Julius, inz. CSc.

Information on the study of the 10th Commission of the
International Institute of Welding on releasing the excess
tensions in welds. Zvaranie 13 no.12:372-373 D 64.

1. Research Institute of Welding, Bratislava.

LOMBARDINI, Yu.

PHASE I BOOK EXPLOITATION

SOV/5975

International Institute of Welding

XII kongress Mezhdunarodnogo instituta svarki, 29 iyunya - 5 iyulya 1959 v g.
Opatii (Twelfth Annual Assembly of the International Institute of Welding,
Opatija, June 29 - July 5, 1959) Moscow, Mashgiz, 1961. 359 p. 3000
copies printed.

Sponsoring Agency: Natsional'nyy komitet SSSR po svarke.

Ed. (Title page): G. A. Maslov, Docent; Translated from English, French,
and Serbo-Croatian by N. S. Aborenkova, K. N. Belyayev, E. P. Bogacheva,
L. A. Borisova, K. V. Zvegintseva, V. S. Minavichev, and M. M. Shelechnik;
Managing Ed. for Literature on the Hot-Working of Metals: S. Ya. Golovin,
Engineer.

PURPOSE: This collection of articles is intended for welding specialists and
the technical personnel of various production and repair shops.

Card 1/4

Twelfth Annual Assembly (Cont.)

SOV/5975

COVERAGE: The collection contains abridged reports presented and discussed at the Twelfth Annual Assembly of the International Institute of Welding. Reports deal with problems of welding and related processes used in repair work, repair techniques, and the problems arising in connection with the nature of the base and filler materials. Examples of repairing various parts are given, and the organization of repair operations in workshops and under field conditions is discussed. Economic aspects of welding and related processes as used in repair work are analyzed. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Only Soviet and Soviet-bloc reports are given here]

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PART I. THE STUDY OF REPAIR-WORK TECHNIQUES
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Myuntsner, L. (Czechoslovakia). Welding of Broken Crankshafts 36

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Twelfth Annual Assembly (Cont.)

SOV/5975

Tesar, A., and Yu. Lombardini (Czechoslovakia). Isothermal
and Ultracold Welding of Hardenable Steels

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Paton, B. Ye., G. Z. Voloshkevich, D. A. Didko, Yu. A.
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Heavy Machines and Mechanisms

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and F. A. Khomus'ko (USSR). Automatic Wear-Resistant
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Snegon, K. (Poland). Restoration of Rolling-Mill Rolls, Crane
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SILIN, Ye.A., kand. tekhn. nauk; LOMBARDOIS, N.D., inzh.

Regulator of the speed of filtration for slow filters. Gidr. i mel.
17 no.2:51-56 F '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i
melioratsii imeni A.N.Kostyakova.

L 34888-66 ENT(1)/T JK

ACC NR: AP6026570

SOURCE CODE: UR/0240/66/000/003/0090/0093

AUTHOR: Abramovich, G. A. (Candidate of biological sciences); Neganova, S. V. (Candidate of biological sciences); Silin, Ye. A. (Candidate of technical sciences); Lombardos, N. D. (Candidate of technical sciences)

ORG: Saratov Scientific Research Institute of Rural Hygiene (Saratovskiy nauchno-issledovatel'skiy institut sel'skoy gigiyeny); All Union Scientific Research Institute of Hydraulics Engineering and Soil Improvement im. Kostyakov, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii)

TITLE: Hygienic evaluation of an installation for purifying and decontaminating water without the use of reagents

SOURCE: Gigiyena i sanitariya, no. 3, 1966, 90-93

TOPIC TAGS: water purification equipment, water purification

ABSTRACT: The authors designed and successfully tested an apparatus for purifying water that does not use chemical reagents. Intended for farming areas, the apparatus consists of a slow filter with a sedimentation area that permits the filter to handle water with up to 500 mg/l of suspended matter, an electric coagulator, and a bubbling-type aerator. If the coagulator is placed before the sedimentation area of the slow filter, water with more than 500 mg/l of suspended matter and a color index of more than 50° can be treated. Reagent-free coagulation consists essentially of anode dissolving of aluminum (or iron) in a flow-type electrolyzer through which the water to be treated flows. The bubbling-type aerator removes odors and aftertastes chiefly of biological origin. It also helps to eliminate some types of impurities such as iron. A bactericidal unit decontaminates the water. Orig. art. has: 2 figures and 1 table.

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[JPRS: 36, 36]

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